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June 1967
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METEOROLOGICAL DATA REPORT

NIKE-HYDAC STV
SR-056 SRE-19
(24 May 1967)

BY

HAROLD M. RICHART

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Atmospheric Science Lab.
White Sands Missile Range
New Mexico

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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METEOROLOGICAL DATA REPORT

NIKE-HYDAC STV
SR-056 SRE-19
(24 May 1967)

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Harold M. Richart

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DA Task IV6502I2A127-02

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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ABSTRACT

Meteorological data gathered for the launching of Nike-Hydac STV, SR-056 SRE-19, are presented for the Ballistic Systems Division, U. S. Air Force, and for ballistic studies. The data appear, along with calculated ballistic data, in tabular form.

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INTRODUCTION

Nike-Hydac STV, SR-056 SRE-19, was launched from Launch Complex 33, L-3611, White Sands Missile Range (WSMR), New Mexico, at 0721 hours MDT, 24 May 1967.

Meteorological data used in conjunction with theoretical calculations to predict rocket impact were collected by the Meteorological Support Division, Atmospheric Sciences Laboratory (ASL), WSMR, New Mexico. The Ballistics Meteorologists for this firing were Harold M. Richart and SFC Glenn E. Hudson.

DISCUSSION

Wind data for the first 216 feet above the surface were obtained from a system composed of 5 Aerovanes mounted on a 200 foot tower and cabled to component wind indicators.

From 216 to 4,000 feet above the surface, wind data were obtained from double-theodolite-observed balloon ascents.

Temperature, pressure, and humidity data, along with upper wind data from 4,000 to 100,000 feet above the surface, were obtained from standard rawinsonde observations.

Mean wind component values in each ballistic zone were determined from vertical cross sections by the equal-area method.

Theoretical rocket performance values and ballistic factors as a function of altitude were provided by ASL and are the basis for data appearing in Table XII.

PAYOUT		233.0	Pounds
CORIOLIS DISPLACEMENT	WEST	4.7	Miles
SECOND-STAGE IGNITION	TIME	20.0	Seconds
	ALTITUDE	36,691	Feet MSL
PEAK	TIME	232.0	Seconds
	ALTITUDE	693,948	Feet MSL
UNIT WIND EFFECT	HEAD	2.3815	Miles/MPH
	CROSS	2.4678	Miles/MPH
	TAIL	2.3815	Miles/MPH
TOWER TILT EFFECT		13.83	Miles/Degree

TABLE I. THEORETICAL ROCKET PERFORMANCE VALUES
NINE-HYDAC STV SR-056

LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS
11- 60	.1440
60- 108	.0966
108- 148	.0629
148- 184	.0502
184- 216	.0286
216- 300	.0724
300- 400	.0533
400- 600	.0752
600- 800	.0557
800-1000	.0400

LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS
1000- 1400	.0555
1400- 2000	.0575
2000- 2500	.0288
2500- 3000	.0195
3000- 3500	.0112
3500- 4000	.0073
4000- 4253	.0012
4253- 9000	-.0135
9000-15000	-.0147
15000-21000	-.0166

LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS
21000- 26000	-.0102
26000- 32691	-.0110
32691- 34000	.0430
34000- 36000	.0411
36000- 41000	.0545
41000- 46000	.0259
46000- 51000	.0154
51000- 56000	.0092
56000- 61000	.0060
61000- 66000	.0010
66000- 74168	.0020

TABLE II. BALLISTIC FACTORS
NIKE-MYDAG STV SR-056

AERO-VANE NO. *	MEAN WIND COMPONENTS IN MILES PER HOUR							
	0510 MDT		0530 MDT		0600 MDT		0615 MDT	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
1	8.0S	2.0S	8.0S	4.0S	8.0S	2.0S	5.0S	5.0S
2	12.0	2.0	10.0	4.0	10.0	4.0	8.0	2.0
3	15.0	2.0	12.0	4.0	10.0	4.0	9.0	4.5
4	15.0	2.0	13.0	4.0	12.0	8.0	10.0	4.5
5	15.0	7.0	13.0	7.0	12.0	8.0	9.0	7.0

AERO-VANE NO. *	MEAN WIND COMPONENTS IN MILES PER HOUR							
	0640 MDT		0650 MDT		0700 MDT		0721 MDT	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
1	0.0	2.0S	0.0	0.0	0.0	0.0	4.0S	2.0N
2	4.0S	2.0	2.0S	0.0	2.0S	0.0	6.5	2.5
3	6.0	4.0	4.0	2.0S	2.0	2.0S	9.0	2.0
4	6.0	4.0	4.0	2.0	5.0	2.0	9.0	1.0
5	6.0	6.0	5.0	6.0	6.0	5.0	9.5	0.0

TABLE III. ANEMOMETER WIND SPEED AND DIRECTION
NIKE-MYDAG STV SR-056

* Heights corresponding to Aerovane Numbers: 1 = 35 Feet 2 = 66 Feet 3 = 128 Feet 4 = 200 Feet
5 = 168 Feet

TABLE IV.
PILOT-BALLOON MEASUREMENTS WIND DATA
NINE-WIND SW-056

LATITUDE IN DEGREES	LONGITUDE IN DEGREES	MEAN WIND CONDITIONS AT NINTH PERIOD 0615 MAY	MEAN WIND CONDITIONS AT NINTH PERIOD 0600 MAY	MEAN WIND CONDITIONS AT NINTH PERIOD 0530 MAY	MEAN WIND CONDITIONS AT NINTH PERIOD 0510 MAY	MEAN WIND CONDITIONS AT NINTH PERIOD 0445 MAY
216- 300	141.0	14.0	14.0	14.0	14.0	14.0
200- 600	140.0	2.5	2.0	2.0	1.0	1.0
100- 600	140.0	14.0	10.0	10.0	10.0	10.0
600- 800	17.0	3.0	3.0	3.0	3.0	3.0
800-1000	18.5	3.5	3.5	3.5	3.5	3.5
1000-1200	17.0	3.0	2.0	2.0	2.0	2.0
1200-2000	12.5	2.5	2.0	2.0	2.0	2.0
2000-2500	7.0	2.5	2.0	2.0	2.0	2.0
2500-3000	1.0	0.0	0.0	0.0	0.0	0.0
3000-3500	3.0	0.0	0.0	0.0	0.0	0.0
3500-4000	1.5	10.0	2.5	2.5	2.5	2.5
4000-4500	3.0	10.0	12.5	12.5	12.5	12.5
4500-5000	0.5	0.0	0.0	0.0	0.0	0.0
5000-5500	2.0	0.0	0.0	0.0	0.0	0.0
5500-6000	4.0	0.0	0.0	0.0	0.0	0.0
6000-6500	1.0	0.0	0.0	0.0	0.0	0.0
6500-7000	3.0	0	0	0	0	0
7000-7500	1.5	0	0	0	0	0
7500-8000	2.5	0	0	0	0	0
8000-8500	4.0	0	0	0	0	0
8500-9000	1.0	0	0	0	0	0
9000-9500	2.0	0	0	0	0	0
9500-10000	4.0	0	0	0	0	0
10000-11000	1.5	0	0	0	0	0
11000-12000	3.0	0	0	0	0	0
12000-13000	1.0	0	0	0	0	0
13000-14000	2.0	0	0	0	0	0
14000-15000	4.0	0	0	0	0	0
15000-16000	1.0	0	0	0	0	0
16000-17000	2.0	0	0	0	0	0
17000-18000	4.0	0	0	0	0	0
18000-19000	1.0	0	0	0	0	0
19000-20000	2.0	0	0	0	0	0
20000-25000	4.0	0	0	0	0	0
25000-30000	1.0	0	0	0	0	0
30000-35000	2.0	0	0	0	0	0
35000-40000	4.0	0	0	0	0	0
40000-45000	1.0	0	0	0	0	0
45000-50000	2.0	0	0	0	0	0
50000-55000	4.0	0	0	0	0	0
55000-60000	1.0	0	0	0	0	0
60000-65000	2.0	0	0	0	0	0
65000-70000	4.0	0	0	0	0	0
70000-75000	1.0	0	0	0	0	0
75000-80000	2.0	0	0	0	0	0
80000-85000	4.0	0	0	0	0	0
85000-90000	1.0	0	0	0	0	0
90000-95000	2.0	0	0	0	0	0
95000-100000	4.0	0	0	0	0	0
100000-110000	1.0	0	0	0	0	0
110000-120000	2.0	0	0	0	0	0
120000-130000	4.0	0	0	0	0	0
130000-140000	1.0	0	0	0	0	0
140000-150000	2.0	0	0	0	0	0
150000-160000	4.0	0	0	0	0	0
160000-170000	1.0	0	0	0	0	0
170000-180000	2.0	0	0	0	0	0
180000-190000	4.0	0	0	0	0	0
190000-200000	1.0	0	0	0	0	0
200000-210000	2.0	0	0	0	0	0
210000-220000	4.0	0	0	0	0	0
220000-230000	1.0	0	0	0	0	0
230000-240000	2.0	0	0	0	0	0
240000-250000	4.0	0	0	0	0	0
250000-260000	1.0	0	0	0	0	0
260000-270000	2.0	0	0	0	0	0
270000-280000	4.0	0	0	0	0	0
280000-290000	1.0	0	0	0	0	0
290000-300000	2.0	0	0	0	0	0
300000-310000	4.0	0	0	0	0	0
310000-320000	1.0	0	0	0	0	0
320000-330000	2.0	0	0	0	0	0
330000-340000	4.0	0	0	0	0	0
340000-350000	1.0	0	0	0	0	0
350000-360000	2.0	0	0	0	0	0
360000-370000	4.0	0	0	0	0	0
370000-380000	1.0	0	0	0	0	0
380000-390000	2.0	0	0	0	0	0
390000-400000	4.0	0	0	0	0	0
400000-410000	1.0	0	0	0	0	0
410000-420000	2.0	0	0	0	0	0
420000-430000	4.0	0	0	0	0	0
430000-440000	1.0	0	0	0	0	0
440000-450000	2.0	0	0	0	0	0
450000-460000	4.0	0	0	0	0	0
460000-470000	1.0	0	0	0	0	0
470000-480000	2.0	0	0	0	0	0
480000-490000	4.0	0	0	0	0	0
490000-500000	1.0	0	0	0	0	0
500000-510000	2.0	0	0	0	0	0
510000-520000	4.0	0	0	0	0	0
520000-530000	1.0	0	0	0	0	0
530000-540000	2.0	0	0	0	0	0
540000-550000	4.0	0	0	0	0	0
550000-560000	1.0	0	0	0	0	0
560000-570000	2.0	0	0	0	0	0
570000-580000	4.0	0	0	0	0	0
580000-590000	1.0	0	0	0	0	0
590000-600000	2.0	0	0	0	0	0
600000-610000	4.0	0	0	0	0	0
610000-620000	1.0	0	0	0	0	0
620000-630000	2.0	0	0	0	0	0
630000-640000	4.0	0	0	0	0	0
640000-650000	1.0	0	0	0	0	0
650000-660000	2.0	0	0	0	0	0
660000-670000	4.0	0	0	0	0	0
670000-680000	1.0	0	0	0	0	0
680000-690000	2.0	0	0	0	0	0
690000-700000	4.0	0	0	0	0	0
700000-710000	1.0	0	0	0	0	0
710000-720000	2.0	0	0	0	0	0
720000-730000	4.0	0	0	0	0	0
730000-740000	1.0	0	0	0	0	0
740000-750000	2.0	0	0	0	0	0
750000-760000	4.0	0	0	0	0	0
760000-770000	1.0	0	0	0	0	0
770000-780000	2.0	0	0	0	0	0
780000-790000	4.0	0	0	0	0	0
790000-800000	1.0	0	0	0	0	0
800000-810000	2.0	0	0	0	0	0
810000-820000	4.0	0	0	0	0	0
820000-830000	1.0	0	0	0	0	0
830000-840000	2.0	0	0	0	0	0
840000-850000	4.0	0	0	0	0	0
850000-860000	1.0	0	0	0	0	0
860000-870000	2.0	0	0	0	0	0
870000-880000	4.0	0	0	0	0	0
880000-890000	1.0	0	0	0	0	0
890000-900000	2.0	0	0	0	0	0
900000-910000	4.0	0	0	0	0	0
910000-920000	1.0	0	0	0	0	0
920000-930000	2.0	0	0	0	0	0
930000-940000	4.0	0	0	0	0	0
940000-950000	1.0	0	0	0	0	0
950000-960000	2.0	0	0	0	0	0
960000-970000	4.0	0	0	0	0	0
970000-980000	1.0	0	0	0	0	0
980000-990000	2.0	0	0	0	0	0
990000-1000000	4.0	0	0	0	0	0

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN MILES PER HOUR							
	0640 MDT ⁶	0650 MDT ⁷	0700 MDT ⁸	0722 MDT ⁹	N-S	E-W	N-S	E-W
216- 300	7.08	6.38	6.08	5.08	7.58	4.08	9.58	0.0
320- 400	9.5	3.0	7.5	2.5	10.0	2.0	9.5	0.5W
400- 600	12.0	0.5	10.0	2.0W	13.5	0.5W	10.0	1.0
600- 800	13.0	2.5W	12.0	4.0	16.0	2.0	8.5	3.0
800-1000	13.5	4.5	13.5	4.5	17.5	3.0	9.0	5.0
1000-2100	11.5	4.0	12.0	2.5	15.5	3.0	7.0	5.5
1400-2800	0.0	3.0	7.0	3.0	7.5	3.0	5.5	5.0
2800-3500	2.0	7.0	2.0	8.0	1.5	6.0	3.5	7.0
3500-4200	0.0	10.5	2.0N	12.5	0.5	9.5	1.5	10.0
3000-3500	1.0B	12.5	0.5	14.0	1.5N	11.5	1.5N	11.5
3500-4000	2.5	15.0	2.0B	11.5	0.0	11.5	1.0	11.5

TABLE IV. PILOT-BALLOON-MEASURED WIND DATA (CONT.)
NIKE-HYDAG STV 8R-056

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN KNOTS				
	0400 MDT 1	0600 MDT 2	0720 MDT 3	N-Q	E-W
4000- 4250	15.58	9.04	0.0	0.0	0.0W
4250- 9000	13.0	5.0	2.08	6.0	
9000-15000	0.5	7.0	14.0	0.0	
15000-21000	10.0	0.0	22.0	0.0	
21000-26000	16.5	3.04	22.0	0.0	
26000-32691	16.5	9.5	22.5	4.0W	
32691-34000	16.0	19.0	16.5	9.5	
34000-36000	16.5	20.0	16.0	10.5	
36000-41000	14.0	17.0	15.5	12.0	
41000-46000	10.0	17.5	14.5	17.5	
46000-51000	0.0	17.0	0.0	15.0	
51000-56000	4.0N	11.5	3.5N	9.5	
56000-61000	4.5	5.5	4.5	2.5	
61000-66000	2.5N	4.5E	1.0E	5.0E	
66000-74160	4.5	4.0	4.0N	1.5	

TABLE V. RAYNINBONDE-MEASURED WIND DATA
NIKH-HYDRO BUW BR-056

STATION ALTITUDE 3480.0 FEET MSL
24 MAY 67 0400 HRS PDT
ASCENSION NO. 417

SIGNIFICANT LEVEL DATA
0243003910
WHITE SANDS SITE
TABLE VI

WEST SITE COORDINATES
E 488,580 FEET
N 105,045 FEET

PRESSURE GEOMETRIC MILLIBARS	ALTITUDE NSL FEET	TEMPERATURE DEGREES CENTIGRADE	REL.HUM. PERCENT
076.5	3989.0	17.3	17.0
068.0	4320.0	21.7	17.0
062.0	4525.4	23.7	19.0
050.0	4926.0	24.0	19.0
742.0	8761.9	15.4	10.0
602.0	14422.1	10.1	24.0
576.0	15054.2	-3.5	30.0
549.0	16023.9	-5.9	49.0
522.0	16117.0	-7.6	26.0
519.0	16265.2	-9.0	59.0
513.0	19562.2	-10.4	70.0
501.0	19164.1	-13.0	69.0
492.0	20139.0	-15.1	91.0
464.0	21090.3	-17.0	100.0
442.0	22298.0	-17.0	100.0
414.0	22090.0	-21.1	96.0
400.0	21734.2	-21.6	71.0
390.0	23145.4	-23.9	71.0
374.0	26346.3	-26.0	79.0
354.0	27301.6	-26.0	66.0
344.0	27446.6	-26.0	57.0
304.0	31163.2	-30.4	59.0
299.0	31530.4	-30.6	59.0
290.0	32227.0	-40.4	48.0
280.0	33011.0	-42.0	49.0
214.0	390700.0	-50.0	0.0
203.0	39801.7	-58.7	0.0
167.0	43062.0	-65.0	0.0
155.0	45356.4	-66.1	0.0
133.0	40420.2	-64.5	0.0

** RELATIVE HUMIDITY NOT SUPPLIED. ZERO VALUE ASSUMED FOR COMPUTATIONS.

STATION ALTITUDE 3989.0 FEET MSL
24 MAY 67 0400 HRS MDT
ASCENSION NO. 417

SIGNIFICANT LEVEL DATA
0263003910
WHITE SANDS SITE
TABLE VI (cont)

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CANTIGRADE	REL.HUM. PERCENT
126.0	49196.3	-69.6	-0. **
112.0	51002.1	-64.5	-0. **
085.0	57307.7	-60.6	-0. **
062.0	50101.0	-60.5	-0. **
048.0	61060.5	-64.4	-0. **
044.0	62467.4	-61.4	-0. **
056.0	65112.7	-61.5	-0. **
052.0	67367.5	-57.9	-0. **
032.0	77620.5	-51.9	-0. **
104.0	90020.7	-50.0	-0. **
149.0	97167.4	-43.3	-0. **
177.0	111024.7	-41.5	-0. **
64.0	114952.0	-33.9	-0. **
5.0	110706.0	-34.5	-0. **

** RELATIVE HUMIDITY NOT SUPPLIED. ZERO VALUE ASSUMED FOR COMPUTATIONS.

STATION ALTITUDE 3909.0 FEET MSL
24 MAY 67 0400 HRS MDW
ASCENSION NO. 417

UPPER AIR DATA
024J003910
WHITE SANDS SITE
TABLE VII

WEST SITE COORDINATES
E 400.580 FEET
N 105.045 FEET

GEOMETRIC ALTITUDE NSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT PERCENT	AIR DEWPOINT CENTIGRADE	AIR DENSITY GM/CUBIC METER	SOUND SPEED KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEDD KNOTS	INDEX OF REFRACTION
3589.0	670.5	17.3	-0.0	17.0	1052.3	664.1	140.0	1.000249	4.1
4000.0	670.2	17.4	-7.9	17.0	1051.4	664.2	140.3	1.000249	4.1
4500.0	662.0	22.6	-3.0	17.0	1044.3	670.3	194.0	1.000247	7.3
5000.0	647.8	23.0	-1.0	16.9	992.2	671.0	169.3	1.000244	10.5
5500.0	632.9	22.7	-2.2	16.9	970.5	670.5	103.0	1.000241	13.7
6000.0	616.3	21.6	-2.5	19.7	969.0	669.2	149.3	1.000237	16.0
6500.0	603.9	20.5	-2.9	20.0	951.7	668.0	207.1	1.000234	18.5
7000.0	786.0	19.5	-3.0	21.0	939.0	666.7	299.7	1.000230	20.0
7500.0	775.9	18.2	-3.0	21.0	925.7	665.4	211.7	1.000227	22.7
8000.0	762.4	17.1	-4.0	21.0	913.0	664.1	207.1	1.000223	24.0
8500.0	746.9	16.0	-4.0	21.0	900.5	662.0	219.8	1.000220	25.3
9000.0	735.3	14.5	-5.0	21.0	898.2	661.4	214.0	1.000217	26.0
9500.0	722.0	13.6	-6.0	21.0	896.1	659.0	214.0	1.000214	26.0
10000.0	708.4	12.1	-6.0	21.0	894.2	658.0	213.0	1.000210	25.5
10500.0	695.9	10.7	-6.0	21.0	892.3	656.7	206.7	1.000207	24.9
11000.0	683.1	9.4	-6.0	21.0	890.5	655.4	206.7	1.000204	24.3
11500.0	670.6	8.0	-6.0	21.0	889.0	654.1	201.1	1.000201	23.5
12000.0	658.4	6.6	-6.0	21.0	887.5	653.1	195.0	1.000197	22.2
12500.0	646.3	5.6	-6.0	21.0	886.0	652.0	190.5	1.000194	20.9
13000.0	634.5	4.5	-6.0	21.0	885.0	651.0	179.4	1.000191	19.5
13500.0	622.9	2.9	-6.0	21.0	884.0	650.0	160.5	1.000188	18.0
14000.0	611.4	1.4	-6.0	21.0	883.0	649.0	150.5	1.000185	16.7
14500.0	600.2	-0.4	-6.0	21.0	882.0	648.0	140.5	1.000182	15.3
15000.0	588.9	-2.0	-6.0	21.0	881.0	647.0	131.7	1.000180	14.0
15500.0	577.7	-3.0	-6.0	21.0	880.0	646.0	122.6	1.000178	12.7
16000.0	566.0	-3.0	-6.0	21.0	879.0	645.0	113.0	1.000174	11.3
16500.0	555.9	-3.0	-6.0	21.0	878.0	644.0	104.0	1.000170	10.0
17000.0	545.2	-3.0	-6.0	21.0	877.0	643.0	95.0	1.000164	8.7
17500.0	534.7	-3.0	-6.0	21.0	876.0	642.0	86.0	1.000160	7.4
18000.0	524.4	-3.0	-6.0	21.0	875.0	641.0	77.0	1.000157	6.1

STATION ALTITUDE 3989.0 FEET MSL
24 MAY 67 0400 HRS MDT
ASCENSION NO. 417

UPPER AIR DATA
0242003910
WHITE SANDS SITE
TABLE VII (Cont)

WSTM SITE COORDINATES
E 400.580 FEET
N 185.045 FEET

GEOMETRIC ALTITUDE HSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT PERCENT	HUMIDITY GH/CUDIC METER	SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	INDEX OF REFRACTION
18500.0	514.3	-6.5	-13.7	66.4	634.0	160.0	1.000162
19000.0	504.2	-9.9	-14.5	69.3	632.2	170.3	1.000159
19500.0	494.4	-11.3	-14.7	76.6	630.6	173.2	1.000157
20000.0	484.7	-12.6	-14.3	87.9	629.0	177.6	1.000155
20500.0	475.1	-13.8	-14.0	94.4	627.6	181.7	1.000153
21000.0	465.7	-14.9	-15.1	94.1	626.2	184.6	1.000151
21500.0	456.4	-15.7	-15.8	100.0	625.2	187.3	1.000148
22000.0	447.3	-16.5	-16.6	100.0	624.2	189.5	1.000145
22500.0	438.3	-17.5	-17.7	99.5	623.0	191.0	1.000142
23000.0	429.5	-18.8	-19.1	90.2	621.4	191.4	1.000139
23500.0	420.8	-20.1	-20.6	97.0	619.0	191.3	1.000136
24000.0	412.3	-21.2	-22.1	93.0	618.4	190.5	1.000133
24500.0	403.5	-21.5	-24.4	78.0	610.0	189.8	1.000130
25000.0	395.6	-22.6	-26.5	71.0	616.5	189.5	1.000127
25500.0	387.5	-24.3	-28.1	72.2	614.4	189.1	1.000125
26000.0	379.5	-25.8	-28.9	76.2	612.6	188.2	1.000122
26500.0	371.6	-27.0	-30.0	77.1	611.0	187.6	1.000120
27000.0	363.8	-27.7	-31.6	70.0	610.1	187.8	1.000118
27500.0	356.2	-28.5	-33.7	62.0	609.1	187.9	1.000115
28000.0	348.6	-29.8	-35.7	57.2	607.6	187.4	1.000113
28500.0	341.2	-31.1	-36.9	57.5	611.0	186.0	1.000111
29000.0	333.9	-32.5	-38.2	57.0	604.1	186.1	1.000109
29500.0	326.7	-33.9	-39.4	58.1	602.4	186.6	1.000107
30000.0	319.7	-35.2	-35.7	57.0	600.7	192.4	1.000105
30500.0	312.9	-36.6	-36.9	56.0	605.8	196.7	1.000104
31000.0	306.2	-38.0	-38.2	56.2	604.1	196.1	1.000102
31500.0	299.5	-39.4	-39.7	58.0	602.4	196.0	1.000100
32000.0	292.9	-40.7	-40.7	58.3	600.7	192.4	1.000098
32500.0	286.5	-41.2	-41.9	58.6	598.9	196.7	1.000096
33000.0	280.1	-42.6	-44.7	58.6	597.2	201.0	1.000095

STATION ALTITUDE 3989.0 FEET MSL
24 MAY 67 0400 HRS MDT
ASCENSION NO. 417

UPPER AIR DATA
0243003910
WHITE SANDS SITE
TABLE VII (Cont)

MSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
33500.0	273.7	-43.9	44.9**	415.9	589.6	216.2	19.2	1.000093
34000.0	267.4	-45.2	40.6**	408.8	587.9	218.4	20.1	1.000091
34500.0	261.3	-46.6	36.4**	401.7	586.1	219.8	20.9	1.000090
35000.0	255.2	-47.9	32.1**	394.8	584.4	221.1	21.6	1.000088
35500.0	249.4	-49.2	27.9**	388.0	582.7	222.4	22.2	1.000087
36000.0	243.6	-50.6	23.6**	381.4	580.9	223.0	22.7	1.000085
36500.0	238.0	-51.9	19.4**	374.9	579.2	225.3	23.3	1.000084
37000.0	232.6	-53.2	15.2**	368.5	577.4	227.0	23.9	1.000082
37500.0	227.2	-54.6	10.9**	362.2	575.7	229.4	25.1	1.000081
38000.0	222.0	-55.9	6.7**	356.0	573.9	231.3	26.0	1.000079
38500.0	216.9	-57.2	2.4**	350.0	572.2	231.6	26.0	1.000078
39000.0	211.8	-58.1	0*	343.2	571.0	231.6	25.7	1.000076
39500.0	206.8	-58.5	0*	335.6	570.5	230.5	24.2	1.000075
40000.0	201.8	-58.9	0*	328.2	570.0	229.4	22.8	1.000073
40500.0	196.9	-59.7	0*	321.4	568.9	228.4	22.1	1.000072
41000.0	192.2	-60.5	0*	314.8	567.9	227.5	21.4	1.000070
41500.0	187.5	-61.3	0*	308.3	566.8	229.7	21.7	1.000069
42000.0	183.0	-62.1	0*	302.0	565.7	233.0	22.3	1.000067
42500.0	178.5	-62.3	0*	295.8	564.7	237.2	22.2	1.000066
43000.0	174.2	-63.6	0*	289.7	563.6	242.8	21.0	1.000065
43500.0	170.0	-64.4	0*	283.8	562.5	247.6	19.7	1.000063
44000.0	165.9	-65.1	0*	277.8	561.6	248.1	18.2	1.000062
44500.0	161.8	-65.5	0*	271.4	561.1	248.7	16.6	1.000060
45000.0	157.8	-65.8	0*	265.2	560.6	242.4	16.0	1.000059
45500.0	153.9	-66.0	0*	258.9	560.4	236.1	15.5	1.000058
46000.0	150.1	-65.8	0*	252.2	560.7	233.4	17.0	1.000056
46500.0	146.4	-65.5	0*	245.7	561.1	232.8	19.7	1.000055
47000.0	142.8	-65.2	0*	239.3	561.4	232.2	22.4	1.000053
47500.0	139.3	-65.0	0*	233.1	561.8	234.8	23.5	1.000052
48000.0	135.9	-64.7	0*	227.1	562.1	237.7	24.5	1.000051

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
24 MAY 67 0400 HRS MDT
ASCENSION NO. 417

UPPER AIR DATA
0243003910
WHITE SANDS SITE
TABLE VII (Cont)

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

GEOMETRIC ALTITUDE HSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(UTN)	WIND SPEED KNOTS	INDEX OF REFRACTION
48500.0	132.5	-64.6	0.	**	221.4	562.3	240.9	25.1	1.000049
49000.0	129.3	-65.3	0.	-0.	216.7	561.3	244.9	24.4	1.000048
49500.0	126.1	-65.5	0.	**	211.5	561.1	249.0	23.7	1.000047
50000.0	123.0	-65.3	0.	-0.	206.1	561.4	252.9	22.0	1.000046
50500.0	120.0	-65.1	0.	**	200.9	561.7	256.9	19.8	1.000045
51000.0	117.0	-64.9	0.	-0.	195.8	562.0	261.0	17.8	1.000044
51500.0	114.1	-64.7	0.	**	190.8	562.2	265.5	16.5	1.000042
52000.0	111.3	-64.6	0.	-0.	186.0	562.3	270.1	15.2	1.000041
52500.0	108.6	-65.0	0.	**	181.7	561.8	274.8	14.8	1.000040
53000.0	105.9	-65.3	0.	-0.	177.5	561.3	279.6	14.8	1.000040
53500.0	103.3	-65.7	0.	**	173.5	560.8	283.4	14.8	1.000039
54000.0	100.7	-66.1	0.	-0.	169.5	560.3	284.1	15.0	1.000038
54500.0	98.2	-66.4	0.	**	165.6	559.8	284.9	15.2	1.000037
55000.0	95.8	-66.8	0.	-0.	161.8	559.3	289.0	15.1	1.000036
55500.0	93.4	-67.2	0.	**	158.1	558.8	294.2	14.8	1.000035
56000.0	91.1	-67.6	0.	-0.	154.4	558.3	298.9	14.5	1.000034
56500.0	88.9	-67.9	0.	**	150.9	557.8	300.6	13.5	1.000034
57000.0	86.7	-68.3	0.	-0.	147.4	557.3	302.3	12.6	1.000033
57500.0	84.5	-68.3	0.	**	143.7	557.3	305.0	11.8	1.000032
58000.0	82.4	-66.8	0.	-0.	139.2	559.3	309.2	11.2	1.000031
58500.0	80.4	-66.3	0.	**	135.4	560.0	313.5	10.6	1.000030
59000.0	78.4	-66.0	0.	-0.	131.9	560.4	308.7	10.1	1.000029
59500.0	76.5	-65.7	0.	**	128.5	560.8	299.1	9.7	1.000029
60000.0	74.6	-65.4	0.	-0.	125.1	561.2	289.9	9.2	1.000028
60500.0	72.8	-65.2	0.	**	121.9	561.6	287.4	8.8	1.000027
61000.0	71.0	-64.9	0.	-0.	118.7	561.9	284.9	8.3	1.000026
61500.0	69.2	-64.6	0.	**	115.7	562.3	279.0	7.6	1.000026
62000.0	67.5	-62.7	0.	-0.	112.3	563.5	271.2	6.7	1.000025
62500.0	65.9	-61.4	0.	**	108.4	566.6	262.1	5.8	1.000024
63000.0	64.3	-61.4	0.	-0.	105.8	566.6	247.7	4.9	1.000024

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3209.0 FEET MSL
24 MAY 67 0400 HRS MDT
ASCENSION NO. 437

UPPER AIR DATA
0243003910
WHITE SANDS SITE
TABLE VII (cont)

WSTM SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

GEOMETRIC PRESSURE
ALTITUDE
MSL FEET MILLIBARS

TEMPERATURE
AIR DEWPOINT
DEGREES CENTIGRADE
DEGREES CENTIGRADE

			REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TNM)	WIND SPEED KNOTS	INDEX OF REFRACTION
63500.0	62.8	-61.4	103.3	566.6	233.3	4.1	1.000023	
64000.0	61.2	-61.5	100.8	566.5	229.9	3.3	1.000022	
64500.0	59.8	-61.5	98.4	566.5	229.7	2.5	1.000022	
65000.0	58.3	-61.5	96.0	566.5	210.3	2.0	1.000021	
65500.0	56.9	-60.9	93.4	567.3	162.8	1.9	1.000021	
66000.0	55.6	-60.1	90.9	568.4	117.3	1.9	1.000020	
66500.0	54.2	-59.3	88.3	569.4	100.1	3.1	1.000020	
67000.0	52.9	-58.5	85.9	570.5	83.0	4.4	1.000019	
67500.0	51.7	-57.8	83.6	571.4	90.8	5.1	1.000019	
68000.0	50.5	-57.5	80.6	571.8	109.0	5.6	1.000018	
68500.0	49.3	-57.2	79.5	572.2	124.3	5.8	1.000018	
69000.0	48.1	-56.9	77.5	572.6	133.7	5.3	1.000017	
69500.0	47.0	-56.6	75.6	573.0	143.2	4.9	1.000017	
70000.0	45.9	-56.3	73.7	573.4	153.8	5.2	1.000016	
70500.0	44.8	-55.9	71.9	573.9	164.8	5.8	1.000016	
71000.0	43.8	-55.6	70.1	574.3	175.8	6.4	1.000016	
71500.0	42.8	-55.3	68.4	574.7	181.9	6.2	1.000015	
72000.0	41.8	-55.0	66.7	575.1	187.9	6.0	1.000015	
72500.0	40.8	-54.7	65.1	575.5	192.6	5.9	1.000014	
73000.0	39.8	-54.4	63.4	575.9	192.5	5.9	1.000014	
73500.0	38.9	-54.1	61.9	576.3	192.4	5.9	1.000014	
74000.0	38.0	-53.8	60.3	576.7	185.0	5.3	1.000013	
74500.0	37.1	-53.5	58.8	577.1	168.1	3.9	1.000013	
75000.0	36.2	-53.1	57.4	577.6	151.1	2.4	1.000013	
75500.0	35.4	-52.8	56.0	578.0	127.0	2.9	1.000012	
76000.0	34.6	-52.5	54.6	578.4	99.1	4.3	1.000012	
76500.0	33.8	-52.2	53.2	578.8	71.2	5.7	1.000012	
77000.0	33.0	-51.9	51.9	579.2	67.6	5.9	1.000012	
77500.0	32.2	-51.6	50.6	579.6	67.4	5.9	1.000011	
78000.0	31.5	-51.5	49.4	579.8	67.6	5.9	1.000011	

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
24 MAY 67 0400 HRS MIT
ASCENSION NO. 417

UPPER AIR DATA
0243003910
WHITE SANDS SITE
TABLE VII (Cont)

WSTM SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(UTN)	SPEED KNOTS	INDEX OF REFRACTION
78500.0	30•7	-51•4	**	48•3	579•8	71•8	5•1	1.000011
79000.0	30•0	-51•3	-0•	47•2	579•9	76•0	4•4	1.000010
79500.0	29•3	-51•3	0•	46•1	580•0	83•3	3•8	1.000010
80000.0	28•7	-51•2	0•	45•0	580•1	100•0	3•4	1.000010
80500.0	28•0	-51•2	0•	44•0	580•2	116•6	3•0	1.000010
81000.0	27•4	-51•1	0•	42•9	580•2	127•9	2•7	1.000010
81500.0	26•7	-51•0	0•	41•9	580•3	132•1	2•5	1.000009
82000.0	26•1	-51•0	0•	41•0	580•4	136•3	2•4	1.000009
82500.0	25•5	-50•9	0•	40•0	580•5	139•4	2•6	1.000009
83000.0	24•9	-50•8	0•	39•1	580•6	141•8	2•9	1.000009
83500.0	24•4	-50•8	0•	38•2	580•6	144•2	3•3	1.000008
84000.0	23•8	-50•7	0•	37•3	580•7	151•1	3•3	1.000008
84500.0	23•3	-50•7	0•	36•4	580•8	159•4	3•3	1.000008
85000.0	22•7	-50•6	0•	35•6	580•9	167•7	3•2	1.000008
85500.0	22•2	-50•5	0•	34•8	580•9	149•1	3•8	1.000008
86000.0	21•7	-50•5	0•	33•9	581•0	128•5	4•5	1.000008
86500.0	21•2	-50•4	0•	33•2	581•1	109•7	5•2	1.000007
87000.0	20•7	-50•4	0•	32•4	581•2	106•8	5•3	1.000007
87500.0	20•2	-50•3	0•	31•6	581•3	103•9	6•4	1.000007
88000.0	19•8	-50•2	0•	30•9	581•3	102•1	6•9	1.000007
88500.0	19•3	-50•2	0•	30•2	581•4	103•1	7•5	1.000007
89000.0	18•9	-50•1	0•	29•5	581•5	104•2	8•1	1.000006
89500.0	18•4	-50•1	0•	28•8	581•6	106•5	8•5	1.000006
90000.0	18•0	-50•0	0•	28•1	581•7	113•7	8•3	1.000006
90500.0	17•6	-49•6	0•	27•4	582•2	120•8	8•0	1.000006
91000.0	17•2	-49•1	0•	26•8	582•9	128•0	7•8	1.000006
91500.0	16•8	-48•6	0•	26•1	583•5	134•2	7•5	1.000006
92000.0	16•4	-48•1	0•	25•5	584•1	140•1	7•2	1.000006
92500.0	16•1	-47•7	0•	24•8	584•7	146•1	6•9	1.000006
93000.0	15•7	-47•2	0•	24•2	585•3	147•7	6•5	1.000005

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
24 MAY 67 0400 HRS MDT
ASCENSION NO. 417

UPPER AIR DATA
0243003910
WHITE SANDS SITE
TABLE VII (Cont)

HSTM SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL.HUM. PERCENT	SOUND METER KNOTS	WIND DATA		
					INDEX OF REFRACTION	DIRECTION DEGREES(TN)	SPEED KNOTS
93500.0	15.4	-46.7	C*	-0.	**	23.6	585.9
94000.0	15.0	-46.3	0.	-0.	**	23.1	586.5
94500.0	14.7	-45.8	0.	-0.	**	22.5	587.1
95000.0	14.3	-45.3	0.	-0.	**	21.9	587.7
95500.0	14.0	-44.9	0.	-0.	**	21.4	588.3
96000.0	13.7	-44.4	0.	-0.	**	20.9	588.9
96500.0	13.4	-43.9	0.	-0.	**	20.4	589.5
97000.0	13.1	-43.5	0.	-0.	**	19.9	590.1
97500.0	12.8	-43.3	0.	-0.	**	19.4	590.4
98000.0	12.5	-43.2	0.	-0.	**	19.0	590.5
98500.0	12.2	-43.1	0.	-0.	**	18.6	590.6
99000.0	12.0	-43.1	0.	-0.	**	18.1	590.6
99500.0	11.7	-43.0	0.	-0.	**	17.7	590.7
100000.0	11.5	-42.9	0.	-0.	**	17.3	590.8
100500.0	11.2	-42.9	0.	-0.	**	16.9	590.9
101000.0	11.0	-42.8	0.	-0.	**	16.6	591.0
101500.0	10.7	-42.7	0.	-0.	**	16.2	591.1
102000.0	10.5	-42.7	0.	-0.	**	15.8	591.1
102500.0	10.2	-42.6	0.	-0.	**	15.5	591.2
103000.0	10.0	-42.5	0.	-0.	**	15.1	591.3
102500.0	9.8	-42.5	0.	-0.	**	14.8	591.4
104000.0	9.6	-42.4	0.	-0.	**	14.5	591.5
104500.0	9.4	-42.3	0.	-0.	**	14.1	591.6
105000.0	9.2	-42.3	0.	-0.	**	13.8	591.6
105500.0	9.0	-42.2	0.	-0.	**	13.5	591.7
106000.0	8.8	-42.2	0.	-0.	**	13.2	591.8
106500.0	8.6	-42.1	0.	-0.	**	12.9	591.9
107000.0	8.4	-42.0	0.	-0.	**	12.6	592.0
107500.0	8.2	-42.0	0.	-0.	**	12.3	592.0
108000.0	8.0	-41.9	0.	-0.	**	12.1	592.1

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
24 MAY 67 0400 HRS MDT
ASCENSION NO. 417

UPPER AIR DATA
0243003910
WHITE SANDS SITE
TABLE VII (Cont)

WSTM SITE COORDINATES
E 480.580 FEET
N 185.045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
108500.0	7.8	-41.8	0.	**	11.8	592.2	240.8	1.00003
109000.0	7.7	-41.8	0.	**	11.5	592.3	250.4	3.6
109500.0	7.5	-41.7	0.	**	11.3	592.4	257.5	5.2
110000.0	7.3	-41.6	0.	**	11.0	592.5	264.6	5.8
110500.0	7.2	-41.6	0.	**	10.8	592.5	270.8	8.3
111000.0	7.0	-41.5	0.	**	10.5	592.6	271.3	8.9
111500.0	6.9	-40.5	0.	**	10.3	593.9	271.8	9.4
112000.0	6.7	-39.4	0.	**	10.0	595.3	272.3	10.0
112500.0	6.6	-38.3	0.	**	9.7	596.7	276.6	10.5
113000.0	6.4	-37.2	0.	**	9.5	598.1	283.7	10.9
113500.0	6.3	-36.2	0.	**	9.2	599.4	290.8	11.3
114000.0	6.1	-35.1	0.	**	9.0	600.8	297.9	11.7
114500.0	6.0	-34.0	0.	**	8.8	602.1	303.6	10.7
115000.0	5.9	-34.0	0.	**	8.6	602.2	309.3	9.6
115500.0	5.8	-34.0	0.	**	8.4	602.1	315.0	8.6
116000.0	5.6	-34.1	0.	**	8.2	602.0	1.00002	1.00002
116500.0	5.5	-34.2	0.	**	8.0	601.9	1.00002	1.00002
117000.0	5.4	-34.2	0.	**	7.9	601.8	1.00002	1.00002
117500.0	5.3	-34.3	0.	**	7.7	601.8	1.00002	1.00002
118000.0	5.2	-34.4	0.	**	7.5	601.7	1.00002	1.00002
118500.0	5.1	-34.5	0.	**	7.4	601.6	1.00002	1.00002

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3909.0 FEET MSL
24 MAY 67 0400 HRS NDT
ASCENSION NO. 417

MANDATORY LEVELS
0243003910
WHITE SANDS SITE
TABLE VIII

WSTM SITE COORDINATES
E 100,060 FEET
N 102,045 FEET

PRESSURE GEOFVENTIAL MILLIBARS	FEET	TEMPERATURE AIR DEPOINT DEGREES CANTIGRADE	R.H. HUM. PERCENT	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS
050.0	4925.	24.0	10.	107.2	10.0
000.0	6649.	20.2	21.	207.9	10.0
750.0	6649.	16.1	21.	219.7	10.0
045.0	10305.	11.1	21.	211.0	10.0
700.0	12374.	5.7	20*	190.1	10.0
650.0	14499.	-0.1	20*	120.2	10.0
600.0	16762.	-15.0	35*	152.9	10.0
550.0	19195.	-10.5	70*	171.7	10.0
500.0	21925.	-16.3	100*	180.0	10.0
450.0	24701.	-21.6	172*	109.7	10.0
400.0	27072.	-29.5	57*	107.5	10.0
350.0	31411.	-38.0	20*	204.3	10.0
300.0	35429.	-49.1	20*	222.4	10.0
250.0	40106.	-59.2	00*	229.0	10.0
200.0	42824.	-69.5	00*	241.0	10.0
175.0	45904.	-65.0	00*	233.4	10.0
150.0	49849.	-65.4	00*	250.3	10.0
125.0	54000.	-66.2	00*	244.4	10.0
100.0	58423.	-66.2	00*	202.6	10.0
80.0	61000.	-64.7	00*	225.0	10.0
70.0	64211.	-61.5	00*	115.3	10.0
60.0	67955.	-57.4	00*	192.0	10.0
50.0	72612.	-54.4	00*	76.0	10.0
40.0	70700.	-51.3	00*	141.4	10.0
30.0	02599.	-50.9	00*	102.5	10.0
25.0	87372.	-50.3	00*	273.4	10.0
20.0	93573.	-46.2	00*	66.0	10.0
15.0	102510.	-42.5	00*	124.5	10.0
10.0	110440.	-41.5	00*	271.3	10.0
7.0	11914.	-34.5	00*	00*	10.0
5.0	11914.	00*	00*	00*	10.0

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THIS INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
24 MAY 67 0722 HRS MDW
ASCENSION NO. 418

SIGNIFICANT LEVEL DATA
0243001911
WHITE SANDS SITE
TABLE IX

WEST SITE COORDINATES
E 400.500 FEET
N 106.045 FEET

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE FEET	TEMPERATURE DEGREES CENTIGRAVE	AIR DUMPOINT DEGREES CENTIGRAVE	RDL. HUM. PERCENT
879.8	3989.0	19.7	-5.4	10.0
869.0	4329.1	22.3	-2.4	19.0
843.0	5205.4	25.0	1.4	24.0
748.0	8577.1	15.4	-1.2	32.0
590.0	14987.4	-1.2	-10.3	31.0
571.0	15841.1	-3.9	-15.3	41.0
558.0	16437.9	-4.6	-23.2	22.0
520.0	18251.0	-0.0	-27.1	20.0
487.0	19915.5	-11.5	-16.1	69.0
424.0	23355.0	-19.0	-22.3	01.0
388.0	25905.2	-23.0	-29.4	50.0
365.0	26963.0	-27.6	-33.5	59.0
350.0	27953.1	-29.2	-37.3	46.0
301.0	31433.3	-30.4	-47.0	37.0
288.0	32426.5	-41.1	-50.3	37.0
245.0	35573.5	-50.3	0.0	40.0
222.0	38070.3	-55.0	0.0	-10.0
179.0	42533.0	-61.6	0.0	-10.0
142.0	47224.3	-64.9	0.0	-10.0
132.0	48699.0	-62.9	0.0	-10.0
112.0	52032.1	-62.4	0.0	-10.0
94.0	55550.2	-67.2	0.0	-10.0
88.0	56660.1	-60.4	0.0	-10.0
68.0	62028.5	-63.4	0.0	-10.0
60.0	64604.1	-57.3	0.0	-10.0
41.0	72627.5	-53.3	0.0	-10.0
36.0	75417.2	-49.0	0.0	-10.0
30.0	79331.7	-53.0	0.0	-10.0
24.0	84145.1	-47.9	0.0	-10.0
16.0	93050.5	-45.1	0.0	-10.0

** RELATIVE HUMIDITY NOT SUPPLIED. ZERO VALUE ASSUMED FOR COMPUTATIONS.

STATION ALTITUDE 3689.0 FEET MSL
24 MAY 67 0722 HRS MDT
ASCENSION NO. 418

SIGNIFICANT LEVEL DATA
0243003911
WHITE SANDS SITE
TABLE IX (Cont)

WSTM SITE COORDINATES
E 400.500 FEET
N 105.045 FEET

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
11.0	101417.0	-40.7	0.	0. **
8.0	108697.2	-34.6	0.	0. **
6.0	115386.7	-32.9	0.	0. **
4.0	125020.0	-24.5	0.	0. **

** RELATIVE HUMIDITY NOT SUPPLIED. ZERO VALUE ASSUMED FOR COMPUTATIONS.

STATION ALTITUDE 3989.0 FEET MSL
24 MAY 67 0722 HRS MDT
ASCENSION NO. 418

UPPER AIR DATA
0243003911
WHITE SANDS SITE
TABLE X

WSTM SITE COORDINATES
E 488,500 FEET
N 185,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
3989.0	879.8	19.7	-5.3	18.0	1044.9	666.9	140.0	1.9
4000.0	879.5	19.8	-5.2	18.0	1044.2	667.0	140.5	2.0
4500.0	864.1	22.4	-1.7	19.9	1016.2	670.2	164.3	2.9
5000.0	849.1	22.8	0.5	22.8	996.7	670.8	180.1	3.9
5500.0	834.2	22.3	1.2	24.7	980.7	670.3	211.9	4.9
6000.0	819.6	21.2	0.9	25.9	967.2	669.1	235.6	5.6
6500.0	805.2	20.1	0.6	27.1	953.9	667.8	256.8	6.7
7000.0	791.0	19.0	0.2	28.3	940.7	666.5	267.1	7.0
7500.0	777.1	17.8	-0.2	29.4	927.8	665.2	274.5	7.0
8000.0	763.5	16.7	-0.7	30.6	915.1	663.9	274.6	6.2
8500.0	750.0	15.6	-1.1	31.8	902.6	662.6	274.1	5.4
9000.0	736.4	14.3	-2.2	31.9	890.2	661.1	272.7	4.6
9500.0	722.9	13.0	-3.4	31.9	878.0	659.5	267.1	4.3
10000.0	709.6	11.7	-4.5	31.8	865.9	658.0	258.7	4.3
10500.0	696.6	10.4	-5.7	31.7	854.1	656.4	249.9	4.8
11000.0	683.8	9.1	-6.9	31.6	842.4	654.9	241.2	5.6
11500.0	671.3	7.8	-8.0	31.5	830.8	653.3	230.5	6.4
12000.0	659.0	6.5	-9.2	31.5	819.5	651.8	220.0	7.2
12500.0	646.9	5.2	-10.4	31.4	808.3	650.2	209.7	7.8
13000.0	635.0	3.9	-11.6	31.3	797.3	648.7	199.4	8.3
13500.0	623.4	2.7	-12.7	31.2	786.4	647.1	188.8	8.8
14000.0	612.0	1.4	-13.7	31.2	775.7	645.5	178.3	9.4
14500.0	600.7	0.1	-15.1	31.1	765.2	644.0	168.4	10.1
15000.0	589.7	-1.2	-16.2	31.1	754.8	642.4	160.5	11.1
15500.0	578.5	-2.8	-15.5	37.0	744.7	640.6	156.2	12.4
16000.0	567.5	-4.1	-17.0	35.9	734.1	639.0	158.0	13.7
16500.0	556.7	-4.7	-23.3	21.9	722.1	638.2	163.7	14.9
17000.0	545.9	-5.7	-24.4	21.4	710.7	637.0	169.3	16.2
17500.0	535.4	-6.6	-25.5	20.8	699.5	635.9	172.5	17.5
18000.0	525.1	-7.5	-26.6	20.3	688.4	634.8	174.4	18.3

STATION ALTITUDE 3989.0 FEET MSL
24 MAY 67 0722 HRS MDT
ASCENSION NO. 418

UPPER AIR DATA
0243003911
WHITE SANDS SITE
TABLE X (Cont)

WEST SITE COORDINATES
E 409.500 FEET
N 185.045 FEET

GEOMETRIC PRESSURE TEMPERATURE AIR DEWPOINT
ALTITUDE MILLIBARS DEGREES CENTIGRADE

MSL FEET	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
						19.0
18500.0	514.9	-8.5	677.5	633.6	174.9	19.0
19000.0	504.9	-9.6	666.8	632.4	172.8	19.4
19500.0	495.0	-10.6	656.2	631.3	171.5	20.0
20000.0	485.3	-11.7	645.9	630.0	170.0	20.7
20500.0	475.7	-12.9	636.0	628.5	172.6	20.9
21000.0	466.2	-14.1	626.3	627.1	174.9	21.1
21500.0	456.5	-15.3	616.7	625.6	176.6	21.5
22000.0	447.8	-16.5	607.3	624.1	178.2	21.9
22500.0	438.5	-17.7	598.0	622.6	179.5	21.9
23000.0	430.1	-18.9	588.9	621.1	179.8	22.1
23500.0	421.5	-20.1	579.7	619.7	178.7	22.5
24000.0	412.9	-21.0	570.0	618.5	177.9	23.5
24500.0	404.4	-21.9	560.5	617.4	177.5	25.0
25000.0	396.2	-22.9	551.2	616.2	177.8	25.8
25500.0	388.1	-23.8	542.0	615.0	178.6	26.3
26000.0	380.0	-25.1	533.5	613.4	179.4	26.3
26500.0	372.2	-26.4	525.3	611.8	180.1	26.1
27000.0	364.4	-27.7	517.0	610.2	180.1	24.7
27500.0	356.8	-28.5	507.9	609.2	180.0	23.2
28000.0	349.3	-29.3	499.0	608.1	179.1	22.4
28500.0	341.8	-30.6	491.0	606.4	178.5	21.9
29000.0	334.5	-32.0	483.1	604.8	179.0	22.3
29500.0	327.3	-33.3	475.4	603.1	179.9	22.7
30000.0	320.3	-34.6	467.8	601.4	181.3	23.1
30500.0	313.4	-35.9	460.3	599.8	182.9	23.7
31000.0	306.7	-37.3	452.9	598.1	184.7	24.6
31500.0	300.1	-38.6	445.7	596.4	185.8	24.8
32000.0	293.5	-39.9	438.5	594.7	186.2	24.3
32500.0	287.0	-41.3	431.3	592.9	187.9	24.0
33000.0	280.6	-42.6	424.0	591.3	190.3	23.6

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
24 MAY 67 0722 HRS MDT
ASCENSION NO. 418

UPPER AIR DATA
0243003911
WHITE SANDS SITE
TABLE X (Cont)

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
33500.0	274.2	-43.9	-55.8	25.8**	416.8	589.6	192.8	22.8
34000.0	268.1	-45.2	-58.7	20.6**	409.7	507.9	195.3	21.7
34500.0	262.0	-46.5	-62.1	15.4**	402.7	586.2	198.3	21.0
35000.0	256.1	-47.8	-66.2	10.2**	395.9	504.6	201.6	20.4
35500.0	250.3	-49.1	-72.3	4.9**	389.3	502.9	204.1	20.4
36000.0	244.7	-50.4	0.	-0.***	382.7	501.2	205.9	20.9
36500.0	239.0	-51.5	0.	-0.***	375.7	579.7	200.0	21.7
37000.0	233.5	-52.6	0.	-0.***	368.8	578.3	210.4	23.0
37500.0	228.0	-53.7	0.	-0.***	362.1	576.8	211.5	23.6
38000.0	222.7	-54.8	0.	-0.***	355.5	575.3	211.6	23.8
38500.0	217.4	-55.6	0.	-0.***	348.3	574.3	212.6	22.5
39000.0	212.3	-56.4	0.	-0.***	342.2	573.3	213.9	20.5
39500.0	207.2	-57.1	0.	-0.***	334.2	572.3	215.7	19.9
40000.0	202.3	-57.9	0.	-0.***	327.3	571.3	217.6	19.8
40500.0	197.4	-58.6	0.	-0.***	320.6	570.4	221.3	20.6
41000.0	192.7	-59.3	0.	-0.***	314.1	569.4	225.0	21.9
41500.0	188.1	-60.1	0.	-0.***	307.6	568.4	228.7	22.0
42000.0	183.7	-60.8	0.	-0.***	301.4	567.4	230.4	21.1
42500.0	179.3	-61.6	0.	-0.***	295.2	566.4	229.5	19.4
43000.0	174.9	-61.9	0.	-0.***	288.5	565.9	226.2	16.9
43500.0	170.7	-62.3	0.	-0.***	282.0	565.4	221.3	15.5
44000.0	166.5	-62.6	0.	-0.***	275.6	565.0	214.7	14.7
44500.0	162.4	-63.0	0.	-0.***	269.9	564.5	210.0	16.5
45000.0	158.5	-63.3	0.	-0.***	263.2	564.0	211.2	19.7
45500.0	154.6	-63.7	0.	-0.***	257.2	563.5	212.4	22.8
46000.0	150.8	-64.0	0.	-0.***	251.3	563.1	216.1	25.6
46500.0	147.2	-64.4	0.	-0.***	245.6	562.6	220.0	28.1
47000.0	143.6	-64.7	0.	-0.***	240.0	562.1	226.1	27.7
47500.0	140.1	-64.5	0.	-0.***	233.9	562.4	232.2	27.2
48000.0	136.7	-63.8	0.	-0.***	227.8	563.3	230.1	25.7

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
24 MAY 67 0722 HRS MDT
ASCENSION NO. 418

UPPER AIR DATA
0243003911
WHITE SANDS SITE
TABLE X (Cont)

WSTM SITE COORDINATES
E 488.500 FEET
N 185.045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES	AIR DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(UTN)	INDEX OF REFRACTION
48500.0	133.3	-63.2	0.0	-0.0	221.2	564.2	244.0	1.0000049
49000.0	130.1	-62.9	0.0	-0.0	215.6	564.5	249.2	1.0000048
49500.0	126.9	-63.0	0.0	-0.0	210.4	564.4	253.6	1.0000047
50000.0	123.8	-63.1	0.0	-0.0	205.4	564.3	257.7	1.0000046
50500.0	120.8	-63.2	0.0	-0.0	200.4	564.2	259.5	1.0000045
51000.0	117.8	-63.2	0.0	-0.0	195.6	564.1	261.4	1.0000044
51500.0	115.0	-63.3	0.0	-0.0	190.9	564.0	263.7	1.0000043
52000.0	112.2	-63.4	0.0	-0.0	186.3	563.9	266.1	1.0000041
52500.0	109.4	-63.5	0.0	-0.0	182.2	563.8	271.0	1.0000041
53000.0	106.7	-64.4	0.0	-0.0	178.2	562.5	276.6	1.0000040
53500.0	104.1	-65.0	0.0	-0.0	174.2	561.0	279.9	1.0000039
54000.0	101.5	-65.5	0.0	-0.0	170.4	561.1	281.0	1.0000038
54500.0	99.0	-66.1	0.0	-0.0	166.6	560.3	282.2	1.0000037
55000.0	96.6	-66.6	0.0	-0.0	163.0	559.6	280.0	1.0000036
55500.0	94.2	-67.1	0.0	-0.0	159.4	558.9	279.9	1.0000035
56000.0	91.9	-67.5	0.0	-0.0	155.7	550.4	283.4	1.0000034
56500.0	89.6	-67.9	0.0	-0.0	152.1	557.9	286.9	1.0000034
57000.0	87.4	-68.0	0.0	-0.0	149.4	557.7	287.9	1.0000034
57500.0	85.2	-67.5	0.0	-0.0	144.4	556.4	288.1	1.0000032
58000.0	83.1	-67.1	0.0	-0.0	140.6	559.0	288.5	1.0000031
58500.0	81.1	-66.6	0.0	-0.0	136.0	559.6	289.2	1.0000030
59000.0	79.1	-66.2	0.0	-0.0	133.1	560.2	290.3	1.0000030
59500.0	77.1	-65.7	0.0	-0.0	129.6	560.0	293.0	1.0000029
60000.0	75.2	-65.2	0.0	-0.0	126.1	561.4	295.7	1.0000028
60500.0	73.4	-64.8	0.0	-0.0	122.7	562.1	310.4	1.0000027
61000.0	71.6	-64.3	0.0	-0.0	119.4	562.7	325.6	1.0000027
61500.0	69.8	-63.9	0.0	-0.0	116.2	563.3	334.9	1.0000026
62000.0	68.1	-63.4	0.0	-0.0	113.1	563.9	342.1	1.0000025
62500.0	66.5	-62.3	0.0	-0.0	109.0	565.4	344.6	1.0000024
63000.0	64.9	-61.1	0.0	-0.0	106.6	567.0	342.0	1.0000024

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
24 MAY 67 0722 HRS MDT
ASCENSION NO. 418

UPPER AIR DATA
0243003911
WHITE SANDS SITE
TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	INDEX OF REFRACTION
63500.0	63.3	-59.9	0.	-0.	103.4	568.6	341.2	1.000023
64000.0	61.8	-58.7	0.	-0.	100.4	570.2	347.0	1.000022
64500.0	60.3	-57.5	0.	-0.	97.5	571.7	352.0	1.000022
65000.0	58.9	-57.1	0.	-0.	95.0	572.3	9.4	1.000021
65500.0	57.5	-56.9	0.	-0.	92.6	572.7	27.0	1.000021
66000.0	56.2	-56.6	0.	-0.	90.3	573.0	51.3	1.000020
66500.0	54.8	-56.4	0.	-0.	88.1	573.3	80.2	1.000020
67000.0	53.6	-56.1	0.	-0.	86.0	573.6	105.8	6.7
67500.0	52.3	-55.9	0.	-0.	83.9	574.0	121.9	1.000019
68000.0	51.1	-55.6	0.	-0.	81.8	574.3	137.9	1.000018
68500.0	49.9	-55.4	0.	-0.	79.8	574.6	139.9	6.0
69000.0	48.7	-55.1	0.	-0.	77.4	575.0	139.3	4.7
69500.0	47.6	-54.9	0.	-0.	75.9	575.3	146.7	3.8
70000.0	46.4	-54.6	0.	-0.	74.0	575.6	167.1	3.5
70500.0	45.4	-54.4	0.	-0.	72.2	576.0	187.4	3.2
71000.0	44.3	-54.1	0.	-0.	70.5	576.3	213.8	2.2
71500.0	43.3	-53.9	0.	-0.	68.7	576.6	240.8	1.2
72000.0	42.2	-53.6	0.	-0.	67.0	576.9	261.6	0.9
72500.0	41.2	-53.4	0.	-0.	65.4	577.3	275.5	1.6
73000.0	40.3	-52.8	0.	-0.	63.7	578.0	289.3	1.000015
73500.0	39.4	-52.2	0.	-0.	62.1	578.8	323.2	1.000014
74000.0	38.5	-51.6	0.	-0.	60.5	579.6	357.3	5.9
74500.0	37.6	-51.0	0.	-0.	58.9	580.4	26.0	7.0
75000.0	36.7	-50.3	0.	-0.	57.4	581.2	45.9	7.2
75500.0	35.9	-49.9	0.	-0.	56.0	581.8	65.7	7.3
76000.0	35.0	-50.3	0.	-0.	54.8	581.3	83.9	1.000013
76500.0	34.2	-50.7	0.	-0.	53.6	580.8	100.9	9.1
77000.0	33.4	-51.1	0.	-0.	52.5	580.2	117.9	10.3
77500.0	32.7	-51.5	0.	-0.	51.4	579.7	131.2	11.1
78000.0	31.9	-51.9	0.	-0.	50.3	579.2	142.0	11.6

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
24 MAY 67 0722 HRS MDT
ASCENSION NO. 418

UPPER AIR DATA
0243003911
WHITE SANDS SITE
TABLE X (Cont)

WSTM SITE COORDINATES
E 488, 580 FEET
N 185, 045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREEES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	INDEX OF REFRACTION
78500.0	31.2	-52.3	0.	49.2	578.6	154.4	1.000011
79000.0	30.5	-52.7	0.	48.2	578.1	162.7	1.000011
79500.0	29.8	-52.8	0.	47.1	578.0	169.9	1.000010
80000.0	29.1	-52.3	0.	45.9	578.7	177.2	1.000010
80500.0	28.4	-51.8	0.	44.7	579.4	177.3	1.000010
81000.0	27.8	-51.2	0.	43.6	580.1	176.4	1.000010
81500.0	27.1	-50.7	0.	42.5	580.7	175.5	1.000009
82000.0	26.5	-50.2	0.	41.4	581.4	155.8	1.000009
82500.0	25.9	-49.6	0.	40.4	582.1	135.2	1.000009
83000.0	25.3	-49.1	0.	39.4	582.8	115.2	1.000009
83500.0	24.7	-48.6	0.	38.4	583.5	106.7	1.000009
84000.0	24.2	-48.1	0.	37.4	584.2	98.2	1.000008
84500.0	23.6	-47.8	0.	36.5	584.5	89.8	1.000008
85000.0	23.1	-47.6	0.	35.7	584.7	96.6	1.000008
85500.0	22.6	-47.5	0.	34.8	584.9	103.4	1.000008
86000.0	22.1	-47.3	0.	34.0	585.1	110.2	1.000008
86500.0	21.6	-47.2	0.	33.2	585.4	113.9	1.000007
87000.0	21.1	-47.0	0.	32.5	585.6	116.7	1.000007
87500.0	20.6	-46.8	0.	31.7	585.8	119.5	1.000007
88000.0	20.1	-46.7	0.	31.0	586.0	122.1	1.000007
88500.0	19.7	-46.5	0.	30.3	586.2	124.3	1.000007
89000.0	19.2	-46.4	0.	29.6	586.4	126.6	1.000007
89500.0	18.8	-46.2	0.	28.9	586.6	128.4	1.000006
90000.0	18.4	-46.1	0.	28.2	586.8	129.3	1.000006
90500.0	18.0	-45.9	0.	27.6	587.0	130.1	1.000006
91000.0	17.6	-45.7	0.	26.9	587.2	130.5	1.000006
91500.0	17.2	-45.6	0.	26.3	587.4	110.7	1.000006
92000.0	16.8	-45.4	0.	25.7	587.6	91.0	1.000006
92500.0	16.4	-45.3	0.	25.1	587.8	71.2	1.000006
93000.0	16.0	-45.1	0.	24.5	588.0	0.7	1.000005

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
24 MAY 67 0722 HRS MDT
ASCENSION NO. 418

UPPER AIR DATA
0243003911
WHITE SANDS SITE
TABLE X (Cont.)

WSTM SITE COORDINATES
E 480.580 FEET
N 185.045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR DEWPONT DEGREES CENTIGRADE	REL.HUM. PERCENT	GM/CUBIC METER	SOUND KNOTS	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
93500.0	15.7	-44.9	0.	-0.	23.9	588.3	1.000005
94000.0	15.3	-44.6	0.	-0.	23.4	588.7	1.000005
94500.0	15.0	-44.3	0.	-0.	22.8	589.0	1.000005
95000.0	14.7	-44.1	0.	-0.	22.3	589.3	1.000005
95500.0	14.3	-43.8	0.	-0.	21.8	589.7	1.000005
96000.0	14.0	-43.5	0.	-0.	21.3	590.0	1.000005
96500.0	13.7	-43.3	0.	-0.	20.8	590.3	1.000005
97000.0	13.4	-43.0	0.	-0.	20.3	590.7	1.000005
97500.0	13.1	-42.8	0.	-0.	19.8	591.0	1.000004
98000.0	12.8	-42.5	0.	-0.	19.4	591.4	1.000004
98500.0	12.5	-42.2	0.	-0.	18.9	591.7	1.000004
99000.0	12.3	-42.0	0.	-0.	18.5	592.0	1.000004
99500.0	12.0	-41.7	0.	-0.	18.0	592.4	1.000004
100000.0	11.7	-41.4	0.	-0.	17.6	592.7	1.000004
100500.0	11.5	-41.2	0.	-0.	17.2	593.0	1.000004
101000.0	11.2	-40.9	0.	-0.	16.8	593.4	1.000004
101500.0	11.0	-40.6	0.	-0.	16.4	593.7	1.000004
102000.0	10.7	-40.2	0.	-0.	16.0	594.3	1.000004
102500.0	10.5	-39.8	0.	-0.	15.7	594.8	1.000004
103000.0	10.3	-39.4	0.	-0.	15.3	595.3	1.000003
103500.0	10.0	-39.0	0.	-0.	14.9	595.9	1.000003
104000.0	9.8	-38.5	0.	-0.	14.6	596.4	1.000003
104500.0	9.6	-38.1	0.	-0.	14.2	596.9	1.000003
105000.0	9.4	-37.7	0.	-0.	13.9	597.5	1.000003
105500.0	9.2	-37.3	0.	-0.	13.6	598.0	1.000003
106000.0	9.0	-36.9	0.	-0.	13.3	598.5	1.000003
106500.0	8.8	-36.4	0.	-0.	13.0	599.1	1.000003
107000.0	8.6	-36.0	0.	-0.	12.7	599.6	1.000003
107500.0	8.4	-35.6	0.	-0.	12.4	600.1	1.000003
108000.0	8.2	-35.2	0.	-0.	12.1	600.7	1.000003

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
24 MAY 67 0722 HRS MDT
ASCENSION NO. 418

UPPER AIR DATA
0243003911
WHITE SANDS SITE
TABLE X (Cont)

WSTM CITY COORDINATES
E 489°580 FEET
N 36°045 FEET

GEOMETRIC ALTITUDE HSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
108500.0	8.1	-34.8	0*	-0*	**	11.8	601.2	3.3
109000.0	7.9	-34.5	0*	-0*	**	11.5	601.5	3.9
109500.0	7.7	-34.4	0*	-0*	**	11.3	601.7	3.9
110000.0	7.6	-34.3	0*	-0*	**	11.0	601.8	5.0
110500.0	7.4	-34.1	0*	-0*	**	10.8	602.0	6.0
111000.0	7.2	-34.0	0*	-0*	**	10.6	602.1	7.1
111500.0	7.1	-33.9	0*	-0*	**	10.3	602.3	8.1
112000.0	6.9	-33.8	0*	-0*	**	10.1	602.5	8.5
112500.0	6.8	-33.6	0*	-0*	**	9.9	602.6	9.0
113000.0	6.6	-33.5	0*	-0*	**	9.7	602.8	9.2
113500.0	6.5	-33.4	0*	-0*	**	9.5	602.9	9.6
114000.0	6.4	-33.3	0*	-0*	**	9.2	603.1	9.6
114500.0	6.2	-33.1	0*	-0*	**	9.0	603.3	9.5
115000.0	6.1	-33.0	0*	-0*	**	8.9	603.4	9.5
115500.0	6.0	-32.8	0*	-0*	**	8.7	603.7	9.4
116000.0	5.8	-32.4	0*	-0*	**	8.5	604.2	9.1
116500.0	5.7	-31.9	0*	-0*	**	8.3	604.8	8.8
117000.0	5.6	-31.5	0*	-0*	**	8.1	605.3	8.5
117500.0	5.5	-31.1	0*	-0*	**	7.9	605.8	8.2
118000.0	5.4	-30.6	0*	-0*	**	7.7	606.4	8.3
118500.0	5.3	-30.2	0*	-0*	**	7.5	606.9	7.4
119000.0	5.2	-29.7	0*	-0*	**	7.4	607.5	7.5
119500.0	5.0	-29.3	0*	-0*	**	7.2	608.0	84.5
120000.0	4.9	-28.9	0*	-0*	**	7.0	608.6	89.6
120500.0	4.8	-28.4	0*	-0*	**	6.9	609.1	10.4
121000.0	4.7	-28.0	0*	-0*	**	6.7	609.7	1.000001
121500.0	4.6	-27.6	0*	-0*	**	6.6	610.2	1.000001
122000.0	4.5	-27.1	0*	-0*	**	6.4	610.7	1.000001
122500.0	4.4	-26.7	0*	-0*	**	6.3	611.3	1.000001
123000.0	4.4	-26.3	0*	-0*	**	6.1	611.8	1.000001

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3988.0 FEET MSL
24 MAY 67 0722 HRS MDT
ASCENSION NO. 418

UPPER AIR DATA
0243003911
WHITE SANDS SITE
TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
123500.0	4.3	-25.8	0.	-0.	**	6.0	612.4	1.000001
124000.0	4.2	-25.4	0.	-0.	**	5.9	612.9	1.000001
124500.0	4.1	-25.0	0.	-0.	**	5.7	613.4	1.000001
125000.0	4.0	-24.5	0.	-0.	**	5.6	614.0	1.000001

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

STATION ALTITUDE 3909.0 FEET
24 MAY 67 0722 HRS MDT
ASCENSION NO. 418

HANDBOOK LEVELS
024 JUN 3911
WILDL SANDS SITE
TABLE XI

WEST SITE COORDINATES
E 100, 500 FEET
N 105, 045 FEET

PRESSURE COMPUTATIONAL MILLIBARS	FEET	TEMPERATURE		REL. HUM.		WIND DATA DIRECTION (TN) DEGREES (TN)	SPEED KNOTS
		AIR DEWPOINT DEGREES CENTIGRADE	PERCENT	DEG C	PERCENT		
850.0	4960.	42.4	0.4	-3.0	100.0	3.0	0.0
800.0	6690.	19.7	0.4	-26.0	60.0	5.4	0.0
750.0	6450.	15.0	-1.1	-27.1	42.7	4.7	0.0
700.0	10402.	10.0	-5.4	-28.1	16.6	7.7	0.0
650.0	12449.	5.0	-10.1	-29.1	16.7	10.2	0.0
600.0	14595.	0.0	-15.2	-31.1	16.6	15.7	0.0
550.0	16796.	-5.0	-24.0	-22.4	16.6	19.6	0.0
500.0	19230.	-10.1	-10.0	-19.0	17.1	21.0	0.0
450.0	21066.	-16.2	-19.6	-17.7	17.7	25.0	0.0
400.0	24739.	-22.4	-27.2	-22.2	17.9	22.5	0.0
350.0	27918.	-28.2	-37.3	-26.6	18.9	24.0	0.0
300.0	31497.	-30.0	-40.0	-37.1	19.9	26.0	0.0
250.0	35473.	-39.2	-49.2	-39.5	20.4	28.4	0.0
200.0	40160.	-30.2	0.0	0.0	21.9	20.0	0.0
175.0	42900.	-31.9	0.0	0.0	24.0	22.0	0.0
150.0	46013.	-34.1	0.0	0.0	21.6	26.2	0.0
125.0	49601.	-33.1	0.0	0.0	20.6	20.0	0.0
100.0	54167.	-35.9	0.0	0.0	20.2	17.0	0.0
80.0	59584.	-36.4	0.0	0.0	20.9	17.9	0.0
70.0	61253.	-35.9	0.0	0.0	20.4	15.0	0.0
60.0	64396.	-37.3	0.0	0.0	15.5	14.0	0.0
50.0	69195.	-35.4	0.0	0.0	14.0	16.0	0.0
40.0	72990.	-32.6	0.0	0.0	14.0	16.0	0.0
30.0	79023.	-33.0	0.0	0.0	16.7	14.6	0.0
25.0	82917.	-40.0	0.0	0.0	11.0	11.0	0.0
20.0	87756.	-45.6	0.0	0.0	12.2	12.5	0.0
15.0	94046.	-44.9	0.0	0.0	24.9	14.2	0.0
10.0	103050.	-30.9	0.0	0.0	21.5	4.5	0.0
7.0	111194.	-33.0	0.0	0.0	7.0	0.7	0.0
5.0	116980.	-29.1	0.0	0.0	0.6	10.0	0.0

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

RELEASE TIME (MDT)	PIBAL	SECOND-STAGE IMPACT DISPLACEMENT IN MILES DUE TO WIND						AZIMUTH MUTH (DEG. REES)	THEORETICAL IMPACT FROM LAUNCHER (IN METRES)		
		11-216 FT	216-4000 FT	4000-74168 FT	TOTAL	N-S	E-W				
RAWIN- SONDE	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	RANGE	N-S	E-W
0400	0510	10.6S	2.2E	15.2S	2.1W	3.9S	8.9W	29.7S	8.8W	359.3	53.8
0400	0530	9.3S	4.0E	14.6S	0.1E	3.9S	8.9W	27.8S	4.8W	003.4	55.6
0400	0600	8.8S	3.8E	15.9S	0.6E	3.9S	8.9W	28.6S	4.5W	003.7	55.0
0400	0615	6.7S	4.0E	13.2S	0.4W	3.9S	8.9W	23.8S	5.3W	002.7	59.8
0400	0630	3.0S	2.1E	12.0S	3.7W	3.9S	8.9W	18.9S	10.5W	357.9	64.6
0400	0640	3.0S	2.7E	10.4S	2.0W	3.9S	8.9W	17.3S	8.2W	359.9	66.2
0400	0650	1.9S	1.0E	9.2S	2.7W	3.9S	8.9W	15.0S	10.6W	357.9	68.5
0400	0700	1.8S	0.9E	11.9S	1.9W	3.9S	8.9W	17.6S	9.9W	358.4	65.9
0722	0721	6.0S	1.7E	8.7S	4.1W	4.2S	6.3W	18.9S	8.6W	359.6	64.6
											0.5W

	AZIMUTH MUTH (DEG. REES)	MILES FROM LAUNCHER
LAUNCHER SETTING (ELEVATION 83.9 DEGREES QE)	008.7	84.5
NO WIND IMPACT	005.5	83.9
PREDICTED SECOND-STAGE IMPACT	358.0	68.7
SECOND-STAGE IMPACT, RADAR TRACK	012.0	49.0
PREDICTED BOOSTER IMPACT	004.5	2.2
		2.2N Q.2E

TABLE XII. IMPACT PREDICTION DATA
NIKE-HYDAC STV SR-056

UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R&D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author)		2a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED
U. S. Army Electronics Command Fort Monmouth, New Jersey		2b. GROUP

3. REPORT TITLE

METEOROLOGICAL DATA REPORT NIKE-HYDAC STV, SR-056 SRE-19

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)

5. AUTHOR(S) (Last name, first name, initial)

Richard, Harold M.

6. REPORT DATE June 1967	7a. TOTAL NO. OF PAGES 39	7b. NO. OF REFS NONE
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b. PROJECT NO. c. DA Task IV650212A127-02	DR-202	
d.	9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)	

10. AVAILABILITY/LIMITATION NOTICES

Distribution of this document is unclassified.

11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY U. S. Army Electronics Command Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico
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13. ABSTRACT

Meteorological data gathered for the launching of Nike-Hydac STV, SR-056 SRE-19, are presented for the Ballistic Systems Division, U. S. Air Force, and for ballistic studies. The data appear, along with calculated ballistic data, in tabular form.

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14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
1. Ballistics 2. Meteorology 3. Wind						
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